

REMARKS

The Office Action dated October 2, 2007 has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Following the current amendment, claims 1 and 61-78 are currently pending for consideration, of which claims 1 and 74-78 are independent. In particular, claims 1 and 74-78 have been amended to more particularly point out and distinctly claim the invention. It is respectfully submitted that the amendment added no new subject matter to the present application and serves only to more particularly point out and distinctly claim the invention. Applicants urge that all grounds for rejection in the Office Action have been addressed and that the present application is currently in condition for allowance in view of the amendment and the following arguments. Therefore, entry of the amendment and reconsideration of claims are respectfully requested.

Rejection under 35 U.S.C. §112, Second Paragraph

The Office Action rejected claims 1 and 61-78 under 35 U.S.C. §112, Second Paragraph for allegedly failing to particularly point out and distinctly claim the subject matter that the Applicants regard as the invention. In particular, the Office Action noted that the recitation of “the meaning of the Feedback” lacked antecedent basis. Applicants have made appropriate correction to independent claims 1 and 74-78 to address this rejection by replacing “the meaning” with “handling.” Accordingly, Applicants urge that

the rejection of claims 1 and 61-78 under 35 USC §112, Second Paragraph is now moot in view of the present Amendment. Withdrawal of this rejection and reconsideration of claims 1 and 61-78 are respectfully requested.

Rejection under 35 U.S.C. §112, First Paragraph

The Office Action rejected claims 1 and 61-78 under 35 U.S.C. 112, First Paragraph, as allegedly failing to comply with the written description requirement. In particular, the Office Action alleges that “adjusting the meaning of feedback” is not supported in the specification. Applicants have amended the independent claims to recite, instead, “adjusting handling of feedback” and to further recite that the feedback includes “the measured radio indicator sent from the terminal.” As described below, this recitation is fully supported in the specification. Accordingly, Applicants urge that the rejection of claims 1 and 61-78 under 35 USC §112, First Paragraph is improper in view of the present Amendment and the arguments below. Withdrawal of this rejection and reconsideration of claims 1 and 61-78 are respectfully requested.

Each of the pending claims, in part, recites that the terminal controller causes at least one of the radio receivers to be tuned to the at least one frequency band during the at least one identified data frame, to make measurements therein, and to transmit the measurements with the at least one transmitter of the at least one radio transceiver to the station and to adjust the meaning of feedback sent in an uplink direction accordingly to

correspond to a resulting plurality of data streams less than the plurality of data streams prior to a resulting non-MIMO transmission.

As described in the background section of the present application at paragraph 0006, conventional MIMO systems use multiple antennas at the station transmitter and terminal receiver which provide advantages in comparison to transmissions using conventional single antennas. If multiple antennas are used at both the transmitter and the receiver, the peak throughput is increased using a technique known as code re-use, whereby each channelization/scrambling code pair allocated for the HSS-DSCH transmission can modulate up to M distinct data streams where M is the number of base station transmitter antennas. Data streams that share the same channelization/scrambling code must be distinguished based on their spatial characteristics, requiring a receiver with at least M antennas. Compared to a single antenna transmission scheme with a larger modulation constellation to achieve the same data rate, the code re-use technique may have a smaller required Eb/No, resulting in overall improved system performance.

As further described at Paragraph 0006 of the present application, this code reuse technique is an open loop since the transmitter does not require feedback from the UE other than the conventional HSPDA information required for rate determination. Further performance gains can be achieved using closed-loop MIMO techniques whereby the transmitter employs feedback information from the UE. For example, with knowledge of channel realizations, the transmitter could transmit on an orthogonal Eigen modes eliminating the spatial multiple-access interference.

Thus, based upon the disclosure of the application as filed, it would be understood in this technical field that these feedback handling techniques may be used in code reuse MIMO transmissions to improve communication system performance, and that these feedback handling techniques would not be used in other MIMO transmission and non-MIMO transmissions.

As previously noted in a prior response, Paragraph 0025 and figure 4 of the originally filed specification further disclose the recited features, whereby a communications signal may be switched between MIMO and non-MIMO transmissions. Specifically, element 104 of figure 4 illustrates that the terminal controller stores the identification of frames which will be sent in non-MIMO mode and monitors the frame number of received data to determine when to tune one MIMO receiver to a new frequency band to make measurements of radio indicators at the new frequency band. Element 106 of Figure 4 also illustrates that the transmitter transmits the identified frame at increased power and disables one antenna and the receiver is tuned to the new frequency band to make and start measurements. Element 106 of Figure 4 illustrates that the measurements are transmitted from the terminal to the base station as the adjusted uplink transmission (i.e., the recited feedback) and the base station determines if a handoff to a new inter-frequency band or to a new system is in order, as recited in the claims.

Applicants further note that, as described above, the technical concepts embodied the recitations of the pending claims is fully supported in the present application. As

noted in MPEP 2163, the Applicants do not need to repeat the exact language used in the specification, so long as the specification contains adequate support to inform a skilled artisan that Applicants were in possession of the claimed invention as a whole at the time the application was filed.

Accordingly, Applicants urge that the based on the disclosure of paragraph 0006, 0025 and figure 4 of the originally filed specification, the pending claims 1 and 64-78 do comply with the written description requirement under 35 U.S.C. 112, First Paragraph to a person of ordinary skill in this field of technology. As described in MPEP §2163.02, the essential question to be addressed in a description requirement issue is, "does the description clearly allow persons of ordinary skill in the art to recognize that he or she invented what is claimed." Citing to In re Gosteli, 872 F.2d 1008, 1012, 10 USPQ2d 1614, 1618 (Fed. Cir. 1989). Accordingly, withdrawal of this rejection of claims 1 and 64-78 and reconsideration of these claims in view of the proceeding arguments are respectfully requested.

As discussed above, each of the claims 1 and 61-78 currently pending for consideration, including independent claims 1 and 74-78, recites subject matter which is neither disclosed nor suggested in the cited references. Applicants submit that the recited subject matter is more than sufficient to render the invention non-obvious to a person of ordinary skill in the art. It is respectfully requested that independent claims 1 and 74-78 and the related dependent claims be allowed in view of the above arguments, comments, and remarks and that the present application be allowed to pass to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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Enclosures: Petition for Extension of Time
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